About LEVEL news

Contents

Water Levels Rise Rapidly on Lower Lakes

Deadline Extended

Difficult Conditions for St. Lawrence River Outflow Regulation

January Precipitation

January Outflows

Water Levels for the Great Lakes and Montreal Harbour
... a monthly bulletin from Canadian Hydrographic Service

About the monthly Water Level bulletin

January Precipitation Over the Great Lakes

As a percentage of the long-term January average:

Great Lakes Basin	150%
Lake Erie (including Lake St. Clair)	166%
Lake Superior	91%
Lakes Michigan-Huron	165%
Lake Ontario	186%

Note: These figures are preliminary.

LEVEL news
Great Lakes - St. Lawrence River Water Levels

Volume 6, Number 2 **February 4, 1998**

Heavy Precipitation Hits Lakes Erie and Ontario

Water Levels Rise Rapidly on Lower Lakes

After several months of declining water levels, a rapid increase occurred on the lower Great Lakes during January. In contrast to the generally dry conditions experienced during the previous three months, precipitation was very heavy in January.

Lakes Ontario, Erie and St. Clair all experienced a significant increase in water levels. By far the largest increase occurred on Lake Ontario. At the end of January, its level was 44 cm higher than at the beginning of the month, and 44 cm above average. Water levels on both Lakes Erie and St. Clair increased about 10 to 15 cm during the month, with Lake Erie's end of January level at 67 cm above average and Lake St. Clair's level 69 cm above average.

The rapid increase in water levels was brought on by very heavy precipitation during January, especially just before and during the severe ice storm that hit the eastern portion of this area. The total supply of water to Lake Ontario (comprised of precipitation on the lake's surface plus runoff from its basin and inflow from Lake Erie) was the highest on record for the month of January.

Concerns about potential damages to shore properties around these three lakes have been heightened with the rise in lake levels. If wet weather continues over the next few months, all of these lakes could be approaching record high levels by late spring, which would make them very susceptible to storm damages. At present, ice cover is protecting the Lake St. Clair shoreline, but it is almost totally absent from the shores of the other lakes.

In contrast to the lower lakes, water levels on Lakes Superior and Huron declined by close to average amounts during January. At the end of the month, Lake Superior was 4 cm above average while Lake Huron was 41 cm above average. It is very unlikely that either of these lakes will approach their respective record highs through the spring.

The risk of storm damages to shore properties over the next few months is low for Lake Superior and is moderate for Lake Huron.

Deadline Extended

January Outflows From the Great Lakes

As a percentage of the long-term January average:

Lake Superior	94%
Lake Erie	127%
Lake Huron	123%
Lake Ontario	109%

Note: These figures are preliminary.

Last Issue

Next Issue

Issue Index

Summary information for "LEVEL*news*"

The International Joint Commission has decided to extend the deadline for written comment on a proposed regulation plan for Lake Ontario outflows that would make minor adjustments to the regulation of water levels on the lake and St. Lawrence River as far downstream as Trois Rivières, Quebec.

The Commission will consider written comments received by March 2, 1998 at:

International Joint Commission
100 Metcalfe Street,
18th Floor
Ottawa, ON K1P 5M1
Fax (613) 993-5583
Email Clamenm@achilles.net

For more information, contact Garwood Tripp at (613) 995-0088.

Difficult Conditions for St. Lawrence River Outflow Regulation

The severe ice storm that struck eastern Canada in early January caused difficulties for operation of the St. Lawrence River flow control structures. These difficulties were compounded by limitations on flow that accompany formation of an ice cover on the St. Lawrence River.

At the peak of the ice storm, there were widespread power outages due to downed power lines and towers. This led the International St. Lawrence River Board of Control to direct large temporary reductions in flows at hydroelectric power plants in the St. Lawrence River.

The damage to transmission lines meant that hydroelectric plants could not deliver as much power as before the storm. As a result, the plants had to reduce power generation. To continue releasing as much water as possible, many turbines not producing electricity were kept running, but at reduced water flow rates. Since there was no resistance on the turbines from generating power, flowing the same water as before would have damaged the equipment. Nearby spillways were opened to partially offset the turbines' flow limitations.

Flow capacity through the spillways at the Beauharnois-Cedars hydroelectric complex near Montreal was not enough to completely offset cutbacks in the turbine flows, and the water level upstream on Lake St. Francis began to rise rapidly. To avoid serious flood conditions on Lake St. Francis, the Board of Control reduced Lake Ontario's outflow at the hydropower plant near Cornwall, beginning on January 8. Until that time, the Lake Ontario outflow was 8,300 cubic metres per second (cms), which was well above average.

The reductions brought Lake Ontario's outflow to as low as 5,500 cms. Gradual increases took place as generating units at Beauharnois-Cedars were returned to service. By January 14, the outflow was at 6,500 cms, which was the maximum possible given ice cover conditions in the Beauharnois Canal. In a typical winter, the lake's outflow is reduced for a short period to about 6,500 cms, to help formation of a strong and smooth ice cover. A good ice cover helps prevent underwater blockages that can restrict flows the rest of the winter. Moderate temperatures slowed formation of a strong ice cover, and the flow was kept at 6,500 cms until the end of January.

Top of Page
Français | Contact Us | Help | Search | Canada Site
What's New | Topics | Publications | Weather | Home | About Us

part of Environment Canada's Green Lane™

Webmaster
Last Updated: 2001-03-15
Last Reviewed: 2001-03-15

Important Notices and Disclaimers
URL: http://www.on.ec.gc.ca/water/level-news/lvn98feb.html